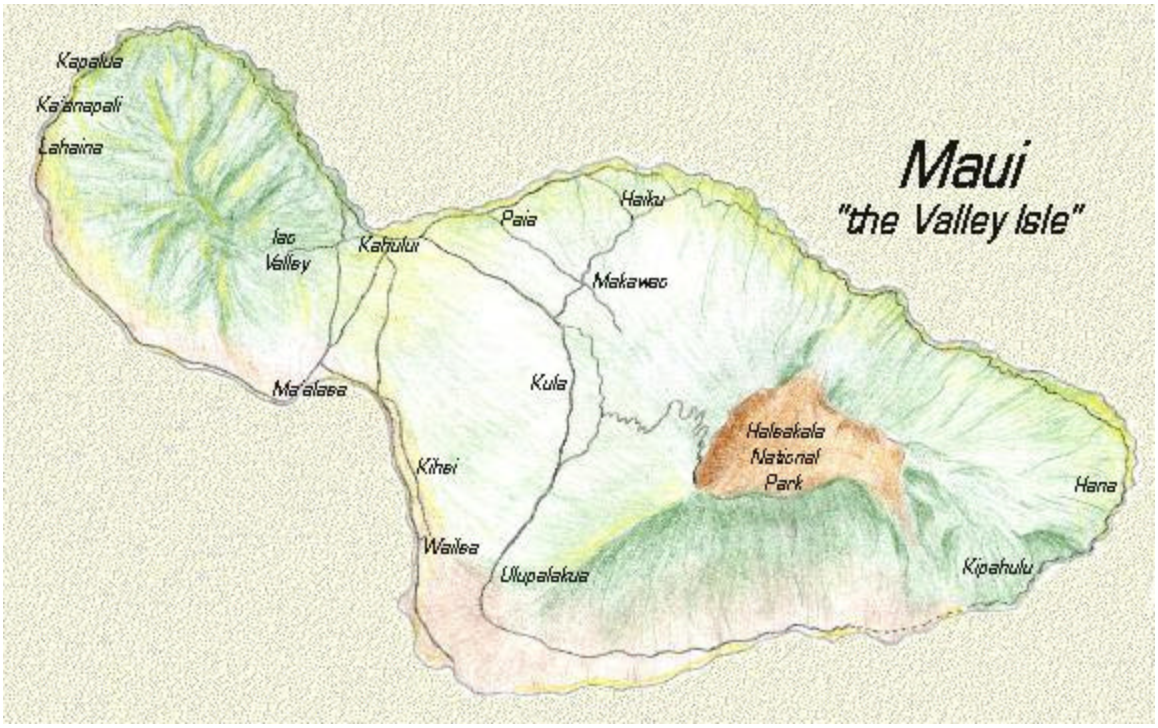
FINAL

JOINT STATE/COUNTY
MAUI INTERIM TRANSPORTATION PLAN



Prepared in collaboration with:
MAUI ITP CITIZENS ADVISORY COMMITTEE

In cooperation with:
COUNTY OF MAUI, DEPARTMENT OF PUBLIC WORKS & WASTE MANAGEMENT
STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION
U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAYS ADMINISTRATION

Prepared by:
STATE OF HAWAII, DEPARTMENT OF TRANSPORTATION
STATEWIDE TRANSPORTATION PLANNING OFFICE

JANUARY 2002

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U.S. Department of Transportation, Federal Highways Administration

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State of Hawaii Department of Transportation
Statewide Transportation Planning Office

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INTRODUCTION

The island of Maui has experienced significant growth in population over the past several years. Census 2000 information reveals that the total population on the Island of Maui has increased 28.8 percent over the period 1990-2000, with most the growth occurring in Central and South Maui. A breakdown of the Census 2000 population estimates by Census Designated Place is summarized in Table 1 and reflected in Figure 1.

This growth in population has resulted in a commensurate increase in traffic demands on the island's transportation system. In those areas where the transportation system has insufficient reserve capacity to accommodate the increase in demand, traffic congestion has occurred. Although there are several major roadway improvement projects currently underway that will provide relief to many of these congested areas, there is a growing sense of public frustration with existing traffic conditions.

PURPOSE

This Maui Interim Transportation Plan (Maui ITP) is a joint effort between the County of Maui and the State of Hawaii, Department of Transportation (HDOT) to develop interim solutions to relieve traffic congestion on the island of Maui until long-term solutions can be implemented. This effort also attempts to consolidate multiple efforts to develop alternative solutions to mitigate traffic congestions, including the efforts of the West Maui Traffic Action Committee and the Mayor's Transportation Action Committee.

STUDY PROCESS

The general objective of this effort was to assess what congestion mitigation measures would be in place in the near future; and for areas where relief was not imminent, to investigate possible interim strategies.

TABLE 1

Census 2000 Resident Population[1] - Island of Maui

Geographic Area	1990	2000	Change	% Increase
Island of Maui	91,361	117,644	26,283	28.8
Haiku-Pauwela CDP[2]	4,509	6,578	2,069	45.9
Haliimaile CDP	841	895	54	6.4
Hana CDP	683	709	26	3.8
Kaanapali CDP	579	1,375	796	137.5
Kahului CDP	16,889	20,146	3,257	19.3
Kapalua CDP	408	467	59	14.5
Kihei CDP	11,107	16,749	5,642	50.8
Lahaina CDP	9,073	9,118	45	0.5
Maalaea CDP	443	454	11	2.5
Makawao CDP	5,405	6,327	922	17.1
Napili-Honokowai CDP	4,332	6,788	2,456	56.7
Paia CDP	2,091	2,499	408	19.5
Pukalani CDP	5,879	7,380	1,501	25.5
Waihee-Waiehu CDP	4,004	7,310	3,306	82.6
Waikapu CDP	729	1,115	386	52.9
Wailea-Makena CDP	3,799	5,671	1,872	49.3
Wailuku CDP	10,688	12,296	1,608	15

[1] The Resident Population is defined as the number of persons whose usual place of residence is in an area, regardless of physical location on the census date. It includes military personnel stationed in the area but excludes persons of local origin attending school or in military service outside the area. It excludes visitors present.

[2] Data shown for places are for census designated places (CDPs) which are statistical areas defined for concentrations of population recognized by the U.S. Census Bureau. All places shown for Hawaii are CDPs. Hawaii is the only state that has no incorporated places recognized by the U.S. Census Bureau.

Reference: The State of Hawaii Data Book 2000, Table 1.11
http://www.hawaii.gov/dbedt/

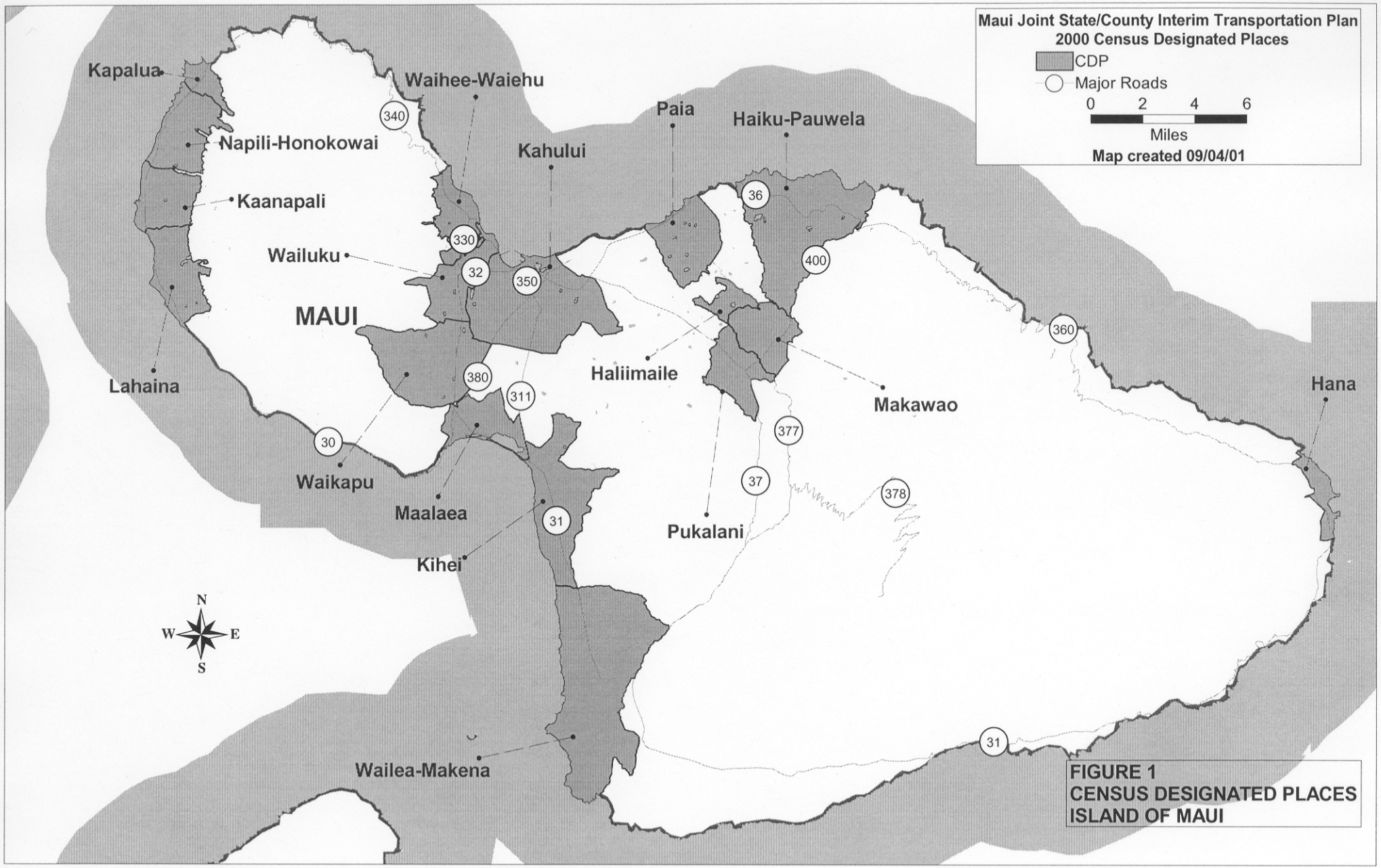


FIGURE 1
CENSUS DESIGNATED PLACES
ISLAND OF MAUI

The study began with a review of existing transportation plans and reports to identify measures previously recommended, and an investigation on the status of recommended improvements underway. Interim strategies were explored and alternatives identified and evaluated. An ad hoc Citizens Advisory Committee (CAC) was convened to provide assistance in verifying focal problem areas, and recommending and screening viable solutions/projects.

PROJECT COORDINATION

The Hawaii State Department of Transportation (HDOT) and the County of Maui, Departments of Planning (PD) and Public Works and Waste Management (DPW) recognize the need to work together towards a solution to the transportation problems faced by the citizens of Maui. This collaborative effort is being accomplished through the Countywide Transportation Planning Process - Maui (CTPP-M).

Countywide Transportation Planning Processes (CTPPs) were established through Comprehensive Agreements between the Governor of the State of Hawaii and the mayors of the Counties of Hawaii, Maui, and Kauai to provide a mechanism that results in cooperative, comprehensive and continuing transportation planning within each of the counties. The Countywide Transportation Planning Process for the County of Maui (CTPP-M) provides the setting for collaborative planning to develop, discuss, and to coordinate the implementation of transportation improvements on the island of Maui.

An important element of the process is the organizational structure, which provides for two standing committees to ensure continuity of the process and follow through on the programs and decisions, and, as the need arises, citizen committees for specific assignments.

- Policy Committee – The Policy Committee is composed of the State Director of HDOT, the County Directors of PD and DPW, and a designated Councilmember. The role of the committee is to provide policy direction and decision making.

- Technical Advisory Committee – This committee is composed of senior staff members from the participating transportation agencies. They provide the technical oversight, and linkages between planning and project implementation.

- Citizens Advisory Committee (CAC) – This is an ad hoc group consisting of members from public and private organizations who can assist the technical project team by providing their insights and input on transportation issues and concerns from the communities' perspective. The CAC created for this study met on June 5 and July 24, 2001, to discuss problem areas, alternative interim solutions, and preliminary recommendations. The roster of the CAC members is included in Appendix A along with summaries of the meetings. (Note: The third meeting of the CAC was cancelled due to the national tragedy that occurred on September 11, 2001.)

This Maui ITP was developed under the auspices of the CTPP-M to involve the appropriate parties and secure their commitment and support of the recommendations.

ASSESSMENT OF EXISTING CONDITIONS, PLANS AND PROGRAMS

This chapter documents the work performed to assess where we are today and what else can be done. Specifically, evaluating if existing plans and programs adequately address the congestion problems, and what is the status of the solutions/projects identified in these plans.

CURRENT PLANS AND PLANNING EFFORTS

Various transportation planning efforts have been conducted and documented for the island of Maui. The most recent include the Maui Long-Range Land Transportation Plan, Kihei Traffic Master Plan, the Lahaina Traffic Circulation Plan, and the Strategies to Link Central and West Maui report. In addition to these plans and reports, the Mayor's Transportation Action Committee also prepared a report identifying areas of congestion and alternative solutions to relieve congestion island-wide; and the West Maui Highway Action Committee developed various recommendations to reduce congestion in West Maui. Information gathered from these reports and committees was used as an initial screening to identify problem areas and formed the basis for the development of some of the alternative interim solutions. The following is a brief summary of these reports and action committees:

Maui Long-Range Land Transportation Plan (LRTP), (February 1997)

This plan serves as a guide for the development of the major surface transportation facilities and programs to be implemented within the County of Maui. The plan is intended to identify long-range (to the Year 2020) strategies and actions that will lead to the development of an integrated inter-modal transportation system. Through the development of the long-range strategies, short-range improvements were also to be identified. (See Appendix B.)

Kihei Traffic Master Plan (October 1996)

During the development of the Maui LRTP the County of Maui expressed a desire to update the transportation plan for Kihei. This report focused on short-range improvements that should be implemented within a ten-year timeframe (before Year 2005) in the Kihei area. (See Appendix C.)

Lahaina Traffic Circulation Plan (May 1991)

This plan focused on the local area traffic operations in the Lahaina area. The goals of the plan were:

1. To enhance Lahaina Town's role as the regional center for resident-related commercial and professional services, as well as maintain the visitor-oriented activities;
2. To emphasize visitor amenities, regional commercial activities and facilities which convey community identity; and
3. To preserve the historic character and charm of Lahaina Town.

(See Appendix D.)

Strategies to Link Central and West Maui (February 2000)

State Senator Jan Yagi-Buen convened a task force (West Side Task Force) of public and private sector representatives to address the disruption in traffic and congestion that occurs with emergency closures of Honoapiilani Highway, between Central and West Maui. The Task Force's primary role was to look at permanent solutions and alternatives to alleviate traffic safety and congestion concerns along the two-lane Honoapiilani Highway (Route 30). This report documented the findings and recommendations of the West Side Task Force. (See Appendix E.)

Mayor's Transportation Action Committee Report (April 2001)

Mayor James Apana formed the Mayor's Transportation Action Committee in January 2001 to bring together citizens of Maui County to identify traffic issues and to develop solutions to address those issues. A total of four public sessions were held in conjunction with this effort. The Mayor's Transportation Action Committee Report summarizes the issues and provides direction for the implementation of short, mid, and long-range solutions to address infrastructure shortfall on the island of Maui. (See Appendix F.)

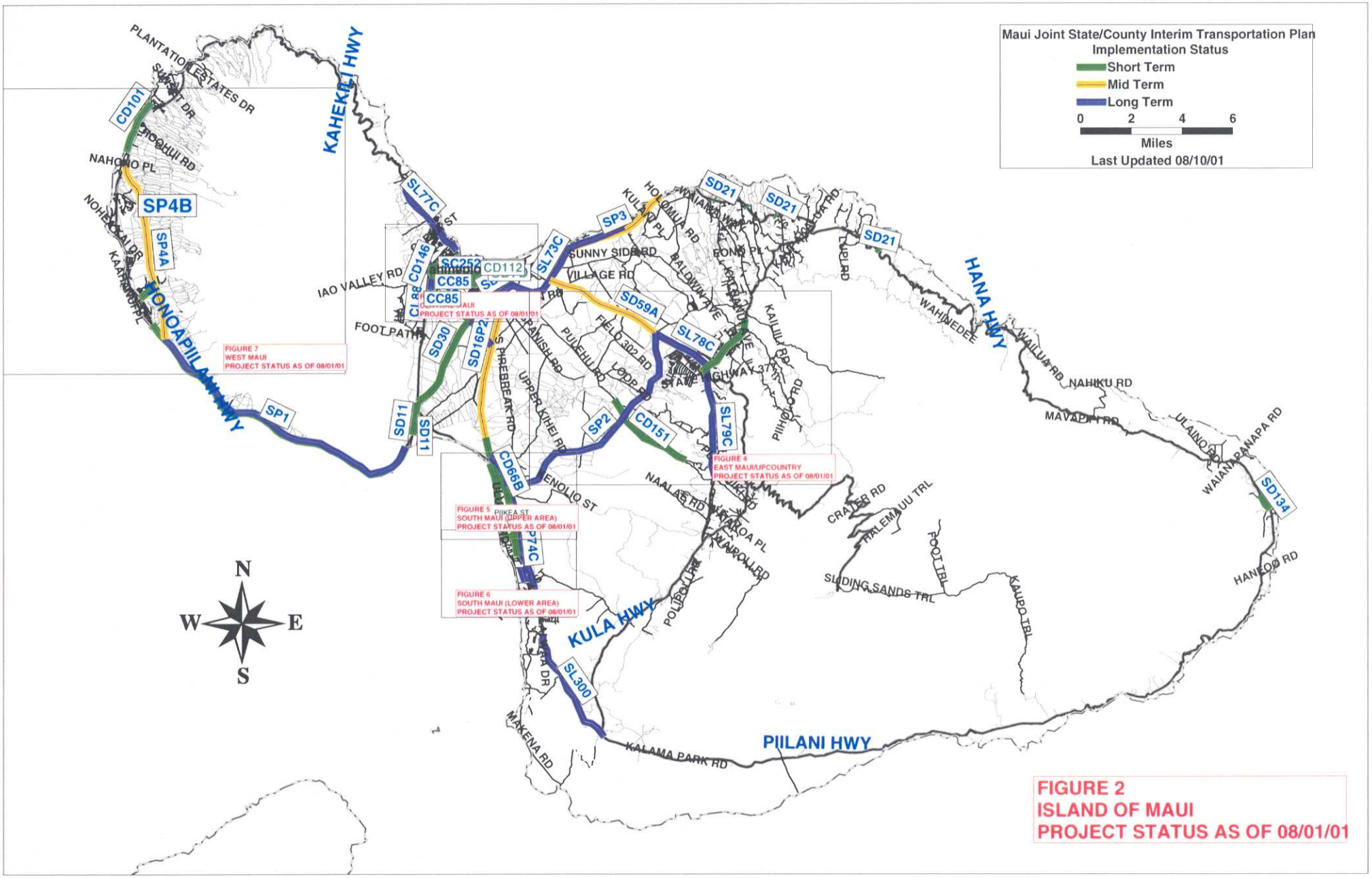
West Maui Highway Action Committee

State Senator Jan Yagi-Buen formed The West Maui Highway Action Committee in January 2001 with the endorsement and support of State Representative Joseph Souki and State Representative Ron Davis. The nine-member committee focused their efforts on Honoapiilani Highway, between Maalaea and Kapalua, developing recommendations to address current and future traffic concerns. This committee independently developed strategies that they shared with HDOT and DPW staffs through meetings and discussions. Many of the recommendations for West Maui are based on the ideas proposed by this committee.

STATUS OF ONGOING PROJECTS

Many transportation improvements identified in the transportation plans and documents identified above have already been initiated. Several roadway improvement projects are in various stages of planning and design and, in some cases, construction is due to begin shortly. In those areas where construction is scheduled to begin within the next five years, interim improvements may not be necessary or cost effective.

The status of ongoing roadway improvement projects being pursued by the HDOT and Maui DPW was, therefore, gathered and reviewed. This information is presented in Figures 2 through 7. Additional project details are summarized in Appendix G.


Maui Joint State/County Interim Transportation Plan
Implementation Status
Short Term
Mid Term
Long Term
0 2 4 6
Miles
Last Updated 08/10/01
KAHEKILI HWY
HANA HWY
KULA HWY
PIILANI HWY
HONOAPIILANI HWY
SP4B
SP4A
SP3
SP2
SP1
SD21
SD59A
SD30
SD16P2
SD11
SD134
SL77C
SL73C
SL78C
SL79C
SL300
CD101
CD146
CD112
CD151
CD66B
P74C
CC85
SC252
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WEST MAUI
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FIGURE 4
EAST MAUI/UPCOUNTRY
PROJECT STATUS AS OF 08/01/01
FIGURE 5
SOUTH MAUI (UPPER AREA)
PROJECT STATUS AS OF 08/01/01
FIGURE 6
SOUTH MAUI (LOWER AREA)
PROJECT STATUS AS OF 08/01/01
PLANTATION ESTATES DR
SUNSET DR
HOOHUI RD
NAHOKO PL
NOHEA KAI DR
KAAPUNI PL
IAO VALLEY RD
FOOTPATH
SUNNY SIDE RD
VILLAGE RD
HOLOMUA RD
KULA VO PL
WAIAKAMILO RD
POHO PL
KAILUA RD
WAHINEDEE
WAILUA RD
NAHIKU RD
MAVAPAPA RD
ULAINO RD
WAIANAPANAPA RD
HANEOO RD
PUNAHOA ST
PUNAHOA PL
PUUNENE AVE
KAAHUMANU AVE
PUUKOLII RD
PUUNENE
KAHULUI
OLD SPRECKELSVILLE HWY
SPRECKELSVILLE
PUUNENE AVE
KAILUA RD
PIIHOLO RD
LOOP RD
FIELD 302 RD
PUUEHIU RD
UPPER KIHEI RD
S PRIBBEAR RD
RANISH RD
ENOLIO ST
PIIKEA ST
NAALAE RD
KAHOA PL
WAIPOLI RD
POLIPOLI LP
CRATER RD
HALEMAUU TRL
SLIDING SANDS TRL
POOLI TBL
KAUPO TBL
MAKENA RD
KALAMA PARK RD
N
S
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FIGURE 2
ISLAND OF MAUI
PROJECT STATUS AS OF 08/01/01

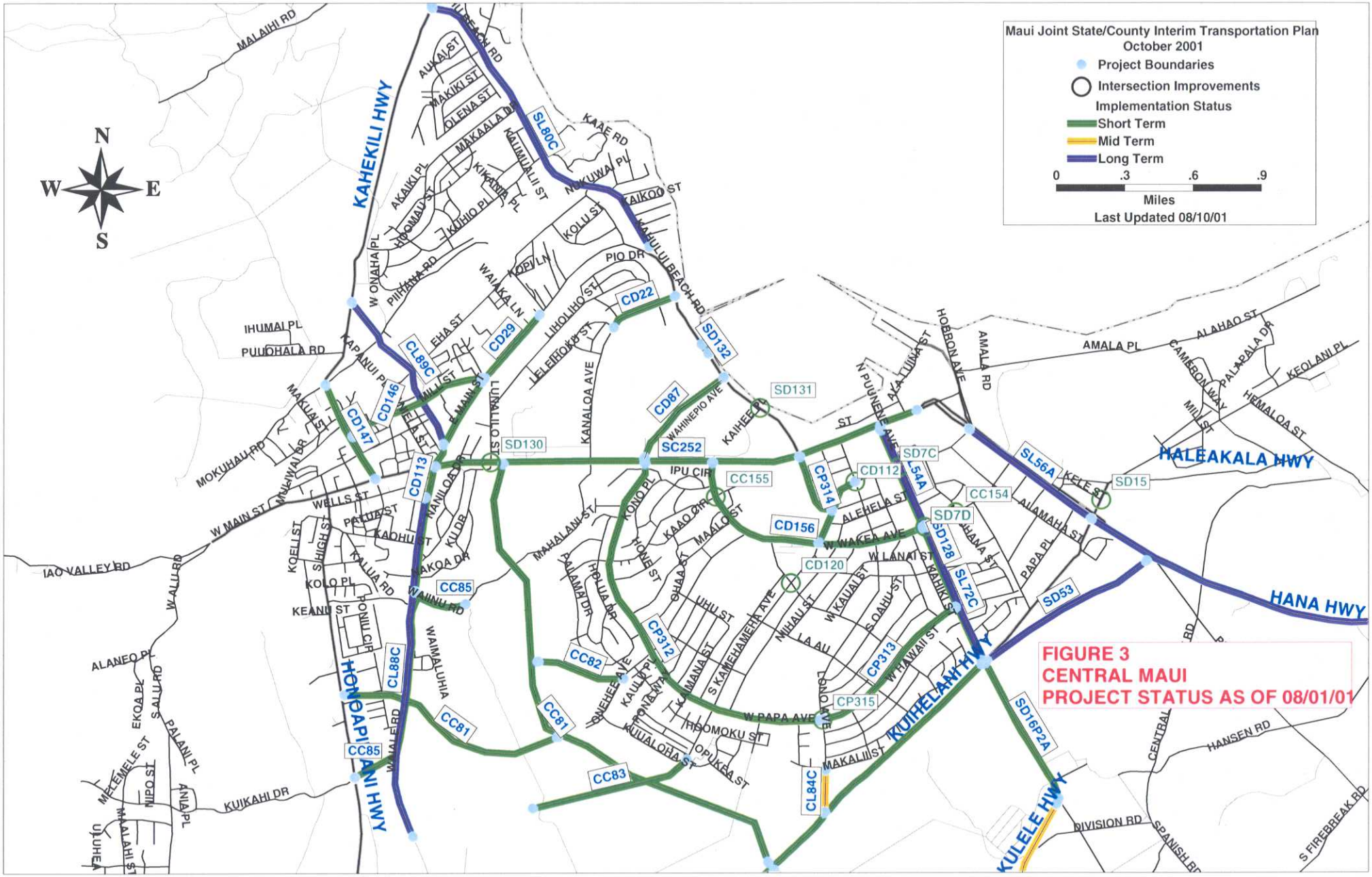


FIGURE 3
CENTRAL MAUI
PROJECT STATUS AS OF 08/01/01

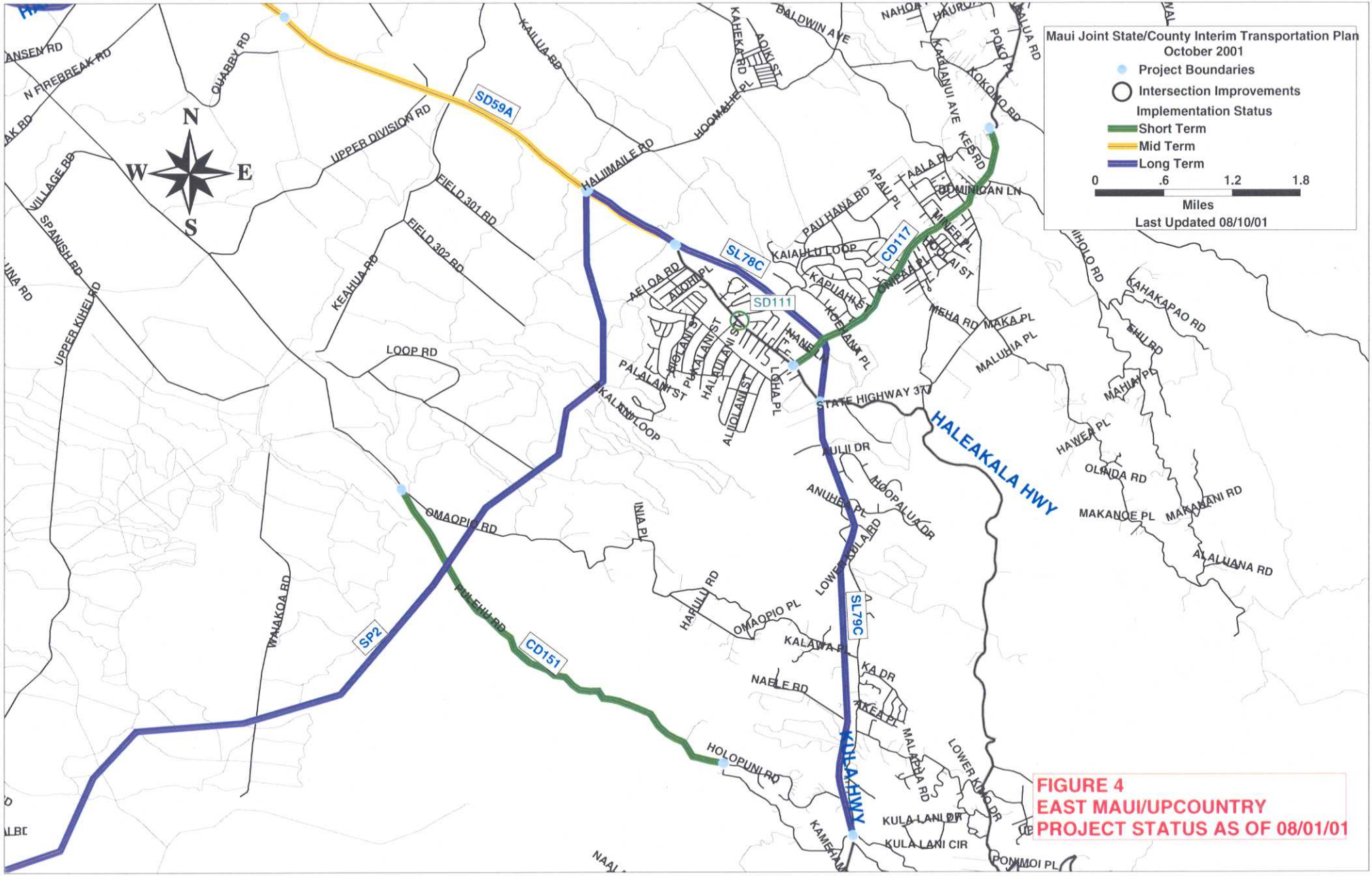
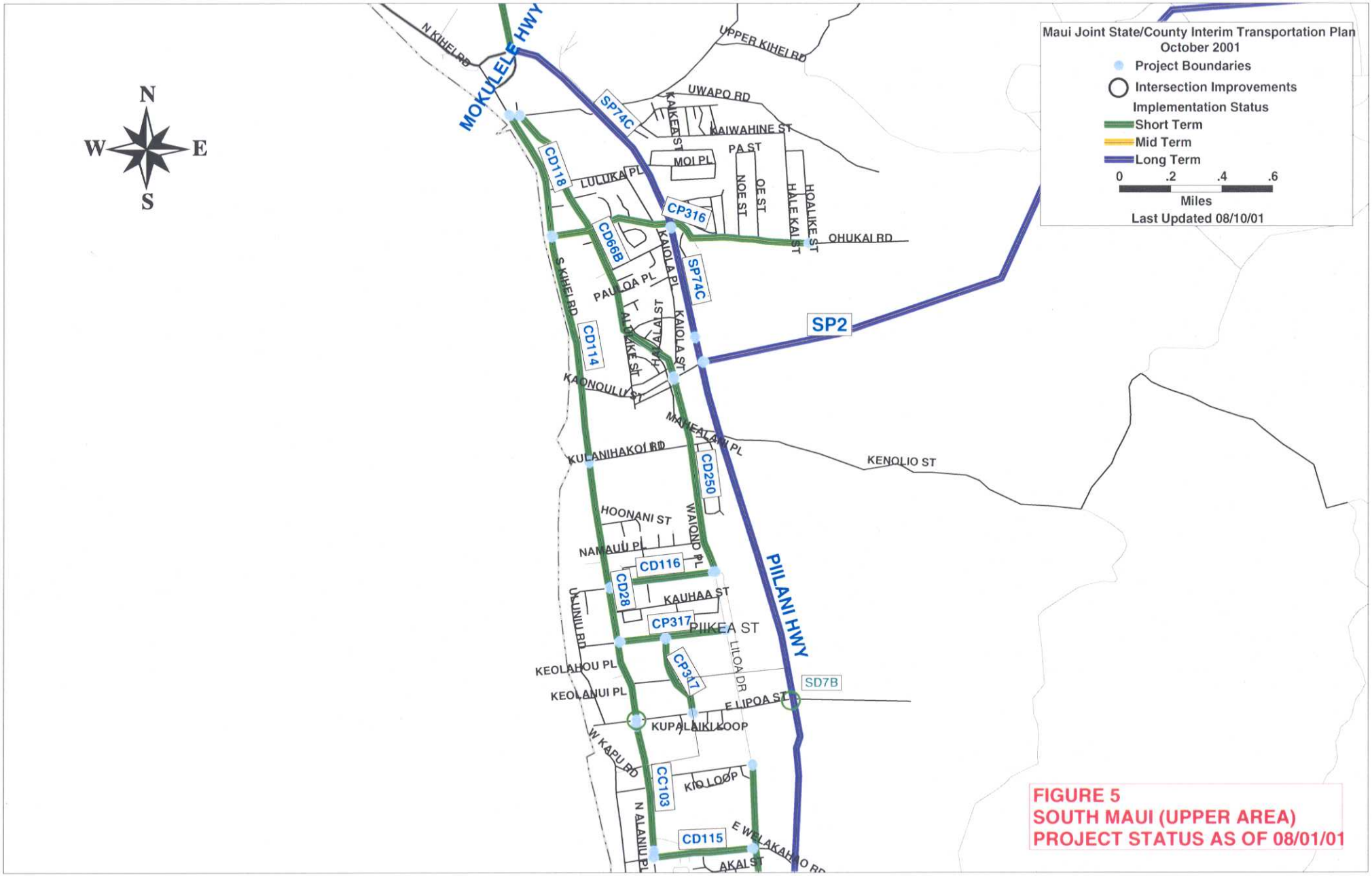


FIGURE 4
EAST MAUI/UPCOUNTRY
PROJECT STATUS AS OF 08/01/01


Maui Joint State/County Interim Transportation Plan
October 2001
Project Boundaries
Intersection Improvements
Implementation Status
Short Term
Mid Term
Long Term
0 .2 .4 .6
Miles
Last Updated 08/10/01
N
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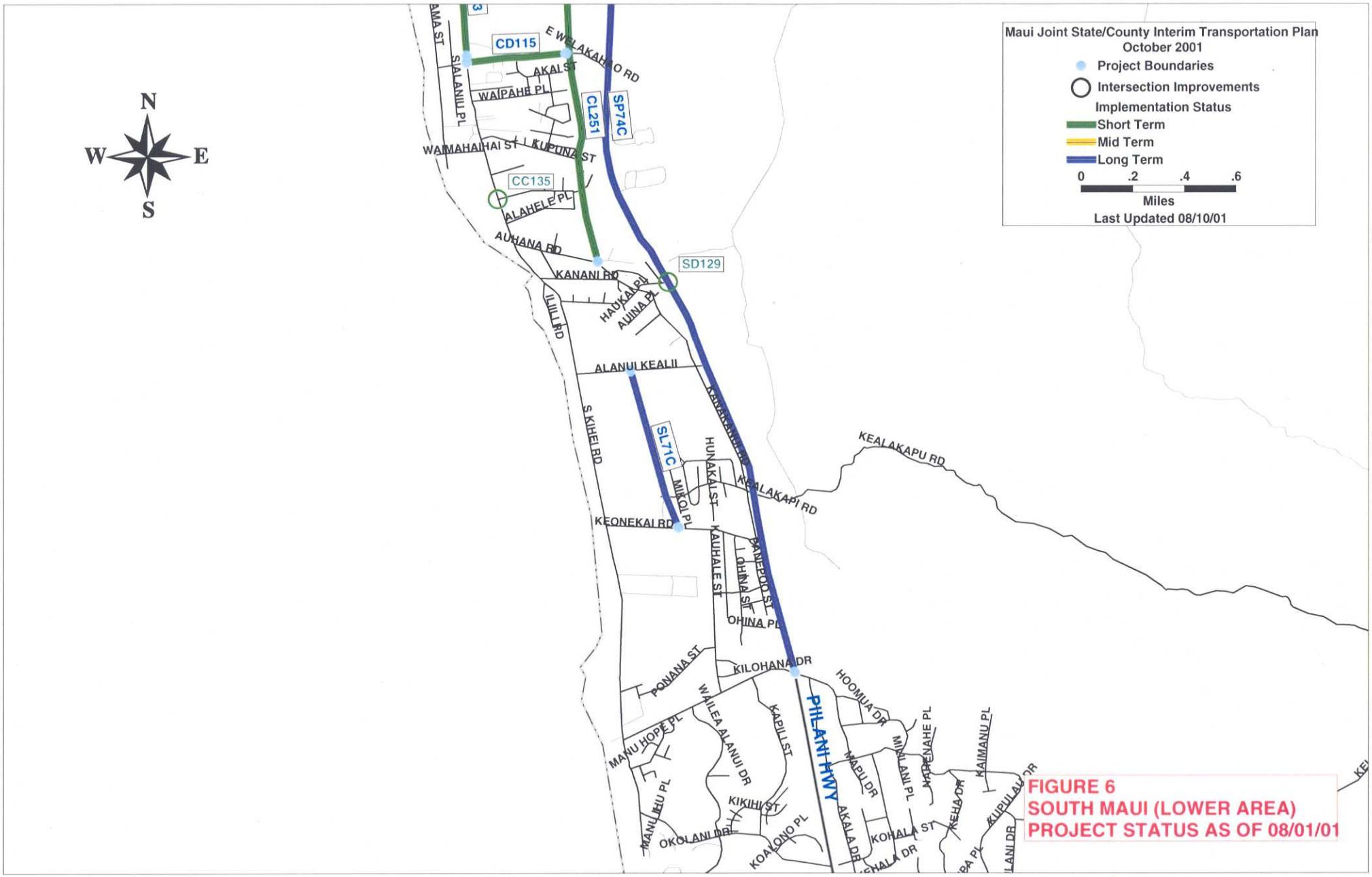
MOKULELE HWY
PIILANI HWY
N KIHEI RD
UPPER KIHEI RD
UWAPO RD
KAIWAHINE ST
PA ST
MOI PL
LULUKA PL
NOE ST
OE ST
HALE KAI ST
HOALIKE ST
OHUKAI RD
KAIOLA PL
KAIOLA ST
PAU LOA PL
ALAPUKE ST
ALAPUKE ST
KAONOULU ST
MAUIALANI PL
KULANIHAKOI RD
KENOLIO ST
HOONANI ST
NAMAUU PL
WAIONO PL
KAUHAA ST
PUKEA ST
LILOA DR
KEOLAHOU PL
KEOLANUI PL
E LIPOA ST
KUPALAIKI LOOP
W KAPUA RD
KIO LOOP
N ALANUI PL
E WELAKAHAO RD
AKAL ST
S KIHEI RD
SP74C
CD118
CP316
CD66B
SP74C
SP2
CD114
CD250
CD116
CD28
CP317
CP317
SD7B
CC103
CD115
FIGURE 5
SOUTH MAUI (UPPER AREA)
PROJECT STATUS AS OF 08/01/01


Maui Joint State/County Interim Transportation Plan
October 2001
Project Boundaries
Intersection Improvements
Implementation Status
Short Term
Mid Term
Long Term
0 .2 .4 .6
Miles
Last Updated 08/10/01
N
W
E
S
CD115
E WELAKAHEO RD
AKAI ST
WAIPAHE PL
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KUPUNA ST
CC135
ALAHELE PL
AUHANA RD
KANANI RD
SD129
HAUKAA PL
AUINA PL
ILIILI RD
ALANUI KEALII
S KIHEI RD
SL71C
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MIKOI PL
KEONEKAI RD
KEALAKAPU RD
KEALAKAPI RD
KAUHALE ST
OHINA ST
OHINA PL
KILOHANA DR
PILANI HWY
POHAKU ST
WAILEA ALANUI DR
KAPILI ST
MANU HOPE PL
MANU IHU PL
KIKIHI ST
OKOLANI DR
KOALOHO PL
HOOMUA DR
MAPU DR
KOHALA ST
KEHA DR
KAIMANU PL
KUPULAU DR
FIGURE 6
SOUTH MAUI (LOWER AREA)
PROJECT STATUS AS OF 08/01/01

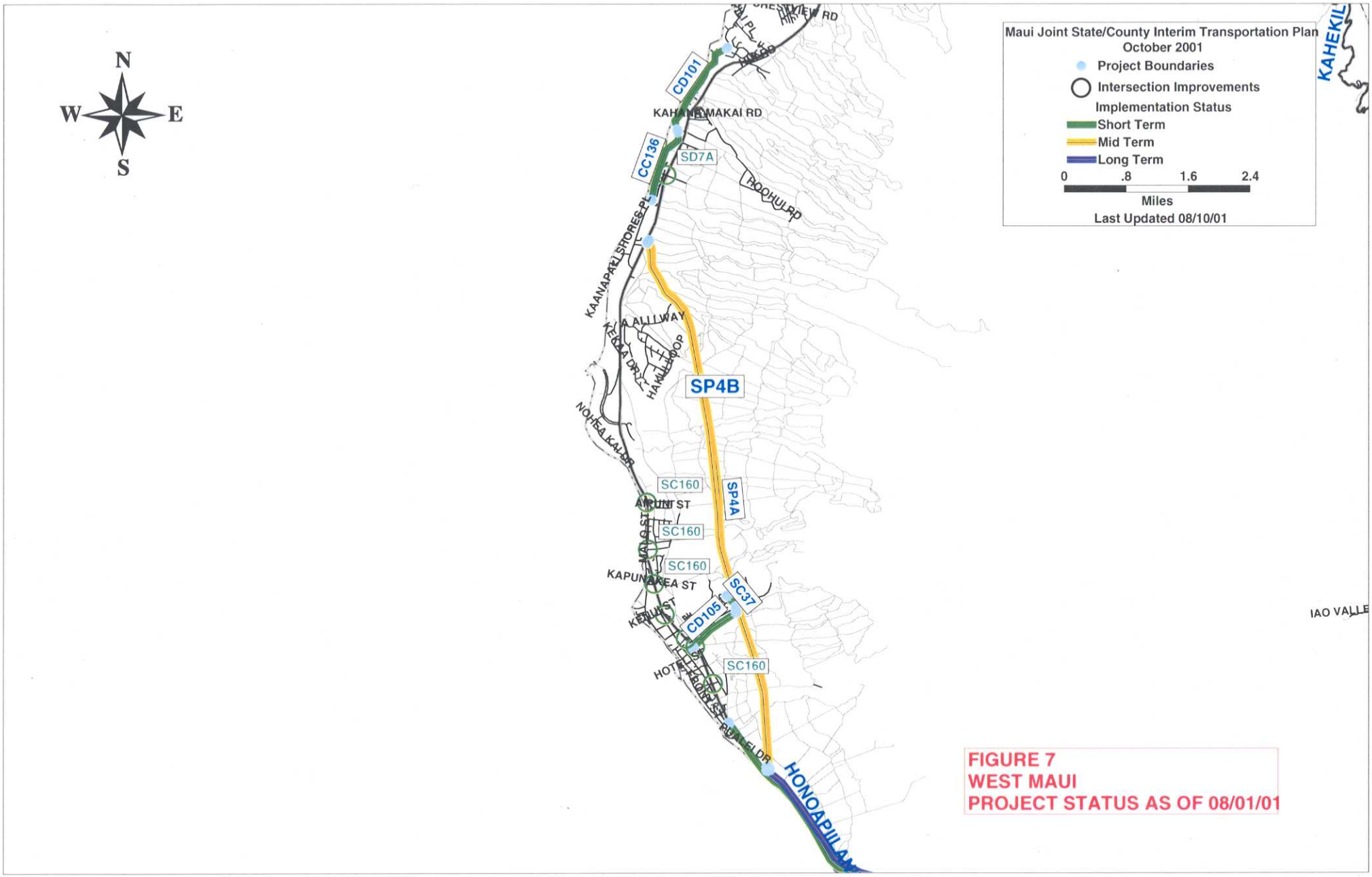


FIGURE 7
WEST MAUI
PROJECT STATUS AS OF 08/01/01

The review indicated consistencies with the priorities set by the Maui LRTP, where the routes emanating to/from Central Maui were identified as priority corridors, followed by the outlying regions of Kihei and West Maui. Several major projects in Central Maui are underway and scheduled to begin construction within the next five years. These include Mokulele Highway widening from two to four lanes, between Puunene Avenue and Piilani Highway; Haleakala Highway widening from three to four lanes, between Hana Highway and Pukalani; Kuihelani Highway widening from two to four lanes, between Puunene Avenue and Honoapiilani Highway; and Honoapiilani Highway widening from two to four lanes, between Kuihelani Highway and Maalaea.

The County of Maui is also pursuing roadway improvements along Lower Honoapiilani Highway between Mahinahina Stream Bridge and Napilihau Road, along South Kihei Road from Lipoa to North Kihei Road, and along the North-South Collector Road from Uwapo Road to Auhana Road.

FOCAL AREAS

The review of the deficiencies identified in the transportation plans and documents, status of ongoing State and County roadway improvement projects, and discussions and comments from the CAC resulted in a screening of locations where interim improvements would provide the greatest benefit by providing temporary relief of traffic congestion until planned long term solutions are implemented. For the purposes of this report, the island of Maui was divided into four regions--Central Maui, East Maui/Upcountry, South Maui, and West Maui. Based on the screening, the following problem areas within each of the regions were identified as having opportunities for the implementation of interim measures to relieve congestion.

Central Maui

- Congestion along Mokulele Highway

East Maui/Upcountry

- Congestion through Paia Town
- Congestion along Haleakala Highway
- Congestion at the Haleakala Highway/Hana Highway intersection

South Maui

- Congestion along Piilani Highway

West Maui

- Congestion along Honoapiilani Highway, between Lahainaluna Road and Puamana
- Congestion at the Honoapiilani Highway/Lahainaluna Road intersection.

INTERIM ALTERNATIVES

ALTERNATIVE INTERIM STRATEGIES

Alternative strategies to provide interim relief of traffic congestion in the various regions on the island of Maui were developed and evaluated. These alternative strategies included accelerating major roadway improvement project construction through phased implementation, Transportation System Management (TSM) measures, Transportation Demand Management (TDM) techniques, roadway improvements, and alternative routes.

Phased Construction

Major roadway improvement projects have large associated construction costs requiring significant commitment of resources to complete. Phased construction divides major projects into smaller segments that can be implemented sooner by allowing construction to begin on those segments that have required construction documents completed. Funding by increments is also often easier to secure. Finally, by phasing the construction of major roadway improvement projects, critically congested segments of the larger overall project can be implemented first to alleviate congestion.

Transportation System Management

Transportation System Management (TSM) measures include parking restrictions, turning movement restrictions, traffic signal optimization and synchronization, and intersection improvements. TSM measures are used to maximize the operational efficiency of existing systems to reducing traffic congestion.

Cars turning left from or onto a roadway can impede the flow of traffic, reducing roadway capacity, and increasing congestion. Similarly, cars entering or existing on-street parking stalls will impede the flow of traffic and increase congestion. Traffic signal synchronization involves coordinating traffic signal operations to provide

efficient progression along a roadway corridor, minimizing vehicle stop delay. Traffic signal optimization involves adjusting the phasing of a traffic signal operation to attain the most efficient use of each traffic signal cycle.

Transportation Demand Management

Transportation Demand Management (TDM) involves techniques to influence travel demand. TDM measures include ridesharing, transit, and alternative modes of travel that reduce the number of vehicular trips. Also, programs such as alternative work schedules, including staggered work and school hours, would reduce congestion by spreading the demand over a wider time period.

Interim Roadway Improvements

Roadway improvements considered to provide interim relief of traffic congestion include roadway widening to expand capacity through the use of the shoulders as a travel lane or the construction of passing lanes to improve the flow of traffic.

Alternative Routes

Alternatives routes divert traffic away from congested areas by dispersing traffic to alternate corridors. The construction of portions of long-term roadway improvements was considered in the development of alternative routes. Phased construction of critical segments of long-term roadway improvements along with the construction of associated connector roads can provide an alternative route to and from destinations and around existing congestion.

EVALUATION OF ALTERNATIVE STRATEGIES

Alternative strategies were evaluated at those locations where there are opportunities to provide interim relief to traffic congestion.

Central Maui

Interim alternatives for Central Maui were not investigated under this effort as the recommended long term solutions have approached fruition and their implementation is scheduled within the next five years; and/or the ongoing projects have already incorporated phasing and TSM strategies to optimize our resources.

Mokulele Highway is a critical link between Central Maui and South Maui. The widening of Mokulele Highway to four lanes, between Puunene Avenue and Piilani Highway, is a long term solution that is currently being implemented. This project is being pursued in five phases so that portions can be constructed and provide relief while constraints hindering other segments can continue to be addresses and resolved.

East Maui/Upcountry

A. Congestion through Paia Town

Congestion through Paia Town is a major community concern. CAC members stated that the community strongly supports the construction of a bypass road around Paia Town that would relieve congestion. They stressed the importance of retaining the rural characteristics of the Paia community. The Maui LRLTP identified the need for a bypass road around Paia Town as a mid range priority project; however, CAC members expressed the Paia-Haiku communities' support for expediting this project. Because the Paia Bypass Road will take several years to complete the planning, environmental documents, engineering, land acquisition, and construction; interim strategies to improve traffic flow and reduce congestion through the town were considered. These strategies included peak period turn restrictions from Hana Highway, peak period parking restrictions, and a one-way reliever road. A number of CAC members expressed strong concern with these proposed interim strategies; in particular, peak hour parking restrictions were strongly opposed.

TSM strategies can be implemented quickly and at relatively low costs. Trial test periods can therefore be conducted to assess the effectiveness of the strategy, and the project modified or even discontinued, as warranted. Conditions before and after implementation should be documented to make an adequate assessment.

1. Hana Highway Left-Turn Restriction

Vehicles turning left from Hana Highway into driveways impede the flow of traffic and increase congestion. Restricting left-turn movements from Hana Highway can, therefore, improve the flow of traffic and reduce congestion. Turn restrictions, however, require active enforcement to be effective. Turn restrictions can also negatively impact adjoining business operations by making it more difficult for customers to access businesses. Limiting turning movement restrictions to the afternoon commuter peak period (4:00 pm to 6:00 pm) could minimize the negative impact to adjoining businesses.

2. Hana Highway Peak Period Parking Restriction

Similarly, cars entering or exiting on-street parking stalls impede the flow of traffic, reduce roadway capacity, and increase congestion. Restricting on-street parking on Hana Highway to provide an additional lane of travel to Baldwin Avenue will increase capacity, reduce congestion, and improve the flow of traffic. On-street parking restrictions can have a negative impact on adjoining business operations by making it less convenient for customers.

HDOT proposed implementing a temporary afternoon peak period parking restriction on Hana Highway through Paia Town. The Paia Business community, however, has voiced strong opposition to the proposed afternoon peak period parking restriction. Concern has been expressed over the potential negative impact that loss of the 23 parking spaces would have on area businesses. Concern has also been expressed over the potential increase in vehicular speeds through town that may result from the peak

period parking restriction. A study of traffic and economic conditions before and after implementation can aid in assessing the positive and negative impacts the afternoon peak period parking restrictions would have on the town of Paia.

3. A&B One-Way Reliever Road

Alexander and Baldwin (A&B) Properties has proposed construction of a short one-way reliever road between Hana Highway and Baldwin Avenue. This short segment will provide an alternate route around the Hana Highway/Baldwin Avenue intersections for vehicles headed towards Upcountry on Baldwin Avenue.

B. Haleakala Highway Widening, Phased Construction

Phased construction of the Haleakala Highway Widening Project should be considered. The project was recently amended to include emergency escape ramps. Where feasible, the roadway construction project should be separated into phases so that construction on other segments of this roadway can begin while the emergency escape ramps are being designed.

The Haleakala Highway/Hana Highway intersection currently experiences some peak period traffic congestion. The proposed widening of Haleakala Highway will relieve the existing operational problems, reducing peak period congestion. For this reason, the initial phase of construction should begin from Hana Highway.

South Maui

The Maui LRTP identifies the need for a four-lane Piilani Highway as a long-range priority project. Piilani Highway, however, is already experiencing relatively heavy traffic congestion conditions during peak periods. For this reason, an interim strategy to expedite the widening of Piilani Highway to a four-lane facility has been proposed.

A. Interim Piilani Highway Widening, Mokulele Highway to Kilohana Drive

Using the existing paved shoulders for travel lanes will provide four lanes on Piilani Highway. Extensive modifications to adjoining drainage facilities and intersection improvements are required in conjunction with this effort. The State has committed $3.0 million and the County of Maui has committed an additional $1.0 million for the construction of the proposed improvements. HDOT is currently in negotiations with area developers to have them partner with us to provide for the planning and design for the proposed improvements. Since preliminary engineering for this work has not been completed, it is not certain that the $4.0 million in construction funds will be sufficient to complete all the improvements required between Mokulele Highway and Kilohana Drive.

B. North-South Collector Road

The County of Maui is pursuing the completion of the North-South Collector Road (Kenolio Road and Liloa Drive) through the Kihei area. This roadway is being implemented in phases with the segment from Kaonoulu Road to Waipuilani Road to begin shortly. Upon construction of this segment, the North-South Collector Road will be complete between Uwapo Road and Halekuai Road.

West Maui

The Honoapiilani Highway/Lahainaluna Road intersection experiences heavy congestion during the morning and afternoon peak periods due to traffic demand generated by the elementary, middle, and high schools located along Lahainaluna Road. Alternative routes could divert traffic away from this congested intersection.

A. Dickenson Street

The County of Maui has initiated a planning study for the extension of Dickenson Street towards the proposed Lahaina Bypass Road. They are currently negotiating a contract with an engineering consultant for this work.

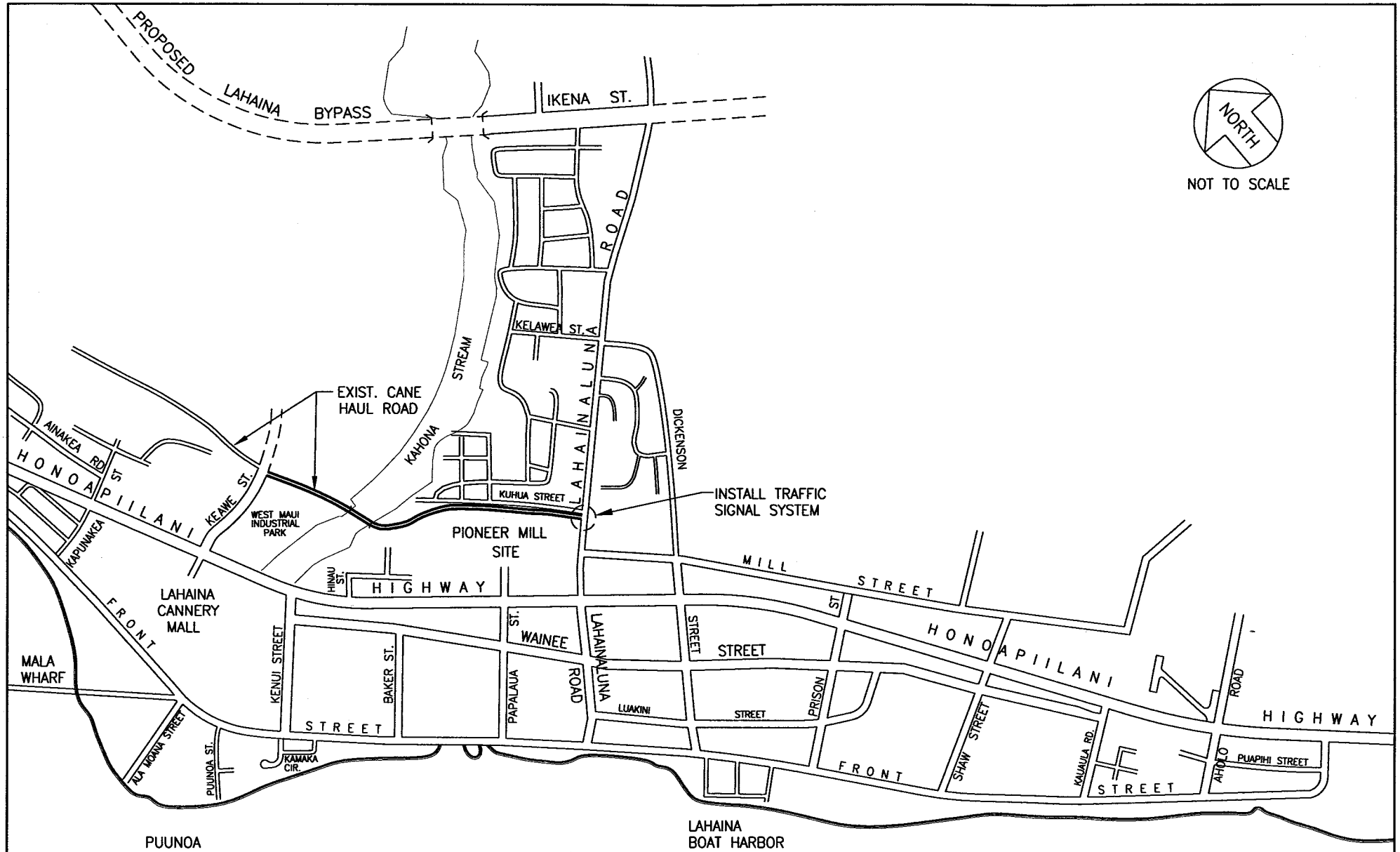
B. Cane Haul Road Alternate Route

The West Maui Highway Action Committee independently developed a recommendation for an alternative route to divert traffic from the Honoapiilani Highway/Lahainaluna Road intersection. This alternative route involves the use of the cane haul road system previously used for sugar cane production, through the Pioneer Mill site. This alternative route also utilizes an existing bridge over Kahoma Stream and connects to Keawe Street in the Lahaina Business Park. Keawe Street in the Lahaina Business Park connects to Honoapiilani Highway across the Lahaina Cannery Shopping Mall. The proposed alignment for the cane haul road alternate route is shown in Figure 8.

With the termination of sugar cane operations, landowner Amfac Land Co. is considering the demolition of Pioneer Mill and the redevelopment of the site. This provides a unique opportunity to negotiate the temporary use of the cane haul road as an alternative route to Lahainaluna Road.

This alternative strategy will require the preparation of environmental documents. The possible discovery of contaminated soil within the Pioneer Mill site and the potential impacts to residences adjoining this proposed roadway alignment are the major constraints to implementation of this strategy. Negotiations with Amfac Land Co. for the acquisition and/or use of the land for the land for the proposed roadway will also be required.

It is estimated that Amfac Land Co. will take at least one year to clear the Pioneer Mill site. While Amfac Land Co. clears the site, the environmental documents could be prepared and processed and the roadway design completed. Actual roadway construction is estimated to take approximately three months to complete. The total estimated time to implement this alternative strategy could be as short as one-year and three months, barring any major problems with the constraints identified above. The estimated construction cost for this alternative strategy is $1.0 million.



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CANE HAUL ROAD ALTERNATIVE ROUTE

FIGURE 8

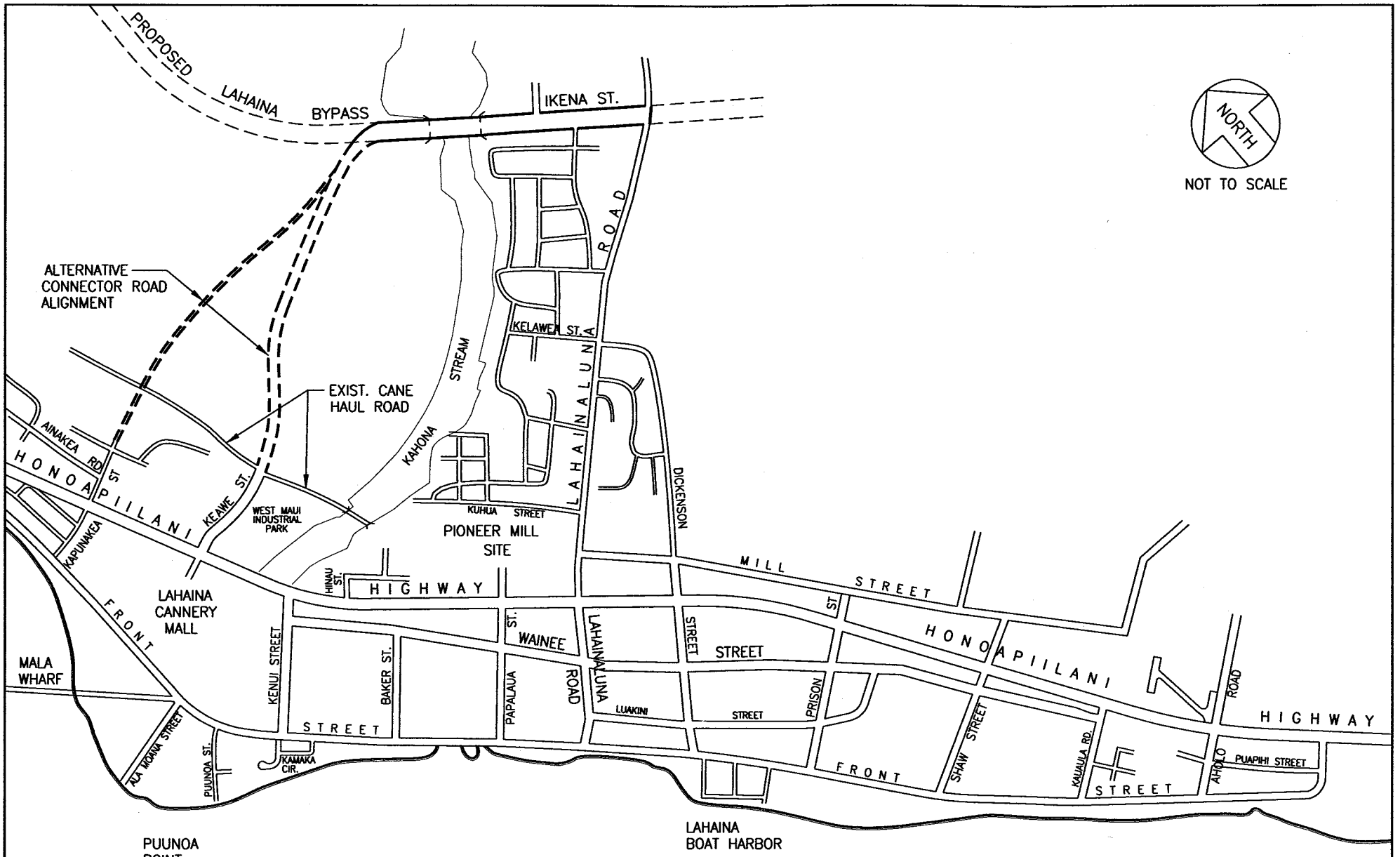
FN: 01-047

C. Phased Construction of the Lahaina Bypass Road

Another strategy evaluated was the phased construction of the Lahaina Bypass Road with connections to Honoapiilani Highway. An initial phase of the Lahaina Bypass Road between the proposed connector in the vicinity of the Lahaina Business Park (possibly extending from Kapunakea Street or Keawe Street) and Lahainaluna Road could be implemented to provide an alternate northerly route to areas along Lahainaluna Road. (See Figure 9 for the proposed alignment of this alternative strategy.) This alternate route could significantly reduce the volume of traffic on Lahainaluna Road and improve operations at the Honoapiilani Highway/Lahainaluna Road intersection. Major constraints with this alternative are the crossing of Kahoma Stream and possible ceded land issues. The proposed Lahaina Bypass Road alignment requires an approximate 400-foot crossing of Kahoma Stream. Federal Highway funds could be used to construct the Lahaina Bypass Road.

Three scenarios were evaluated with this interim strategy to reduce congestion. They are described below and the order of magnitude costs and estimated completion time are summarized in Table 2:

1. Constructing a temporary two-lane, 40-foot wide, 150-foot long bridge across Kahoma Stream and using the existing Ikena Street along the Lahaina Bypass Road alignment with an at-grade intersection at Lahainaluna Road. This alternative could be constructed in approximately four years. However, the temporary 150-foot long bridge would have to be completely replaced when the permanent Lahaina Bypass Road is constructed, which may require temporary closure of the roadway during construction. The cost to construct a temporary 150-foot long bridge is estimated to be $2.5 million. Including the connector roads, the total estimated construction cost for these improvements is $8.0 million.



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LAHAINA BYPASS ROAD, PHASE I

FIGURE 9

FN: 01-047

TABLE 2

Alternatives to Relieve Congestion at the
Honoapiilani Highway/Lahainaluna Road Intersection

Alternative Scenario	Order of Magnitude Budgetary Estimate	Estimated Time to Complete
• Cane Haul Road Connection to Lahainaluna Road with Traffic Signal	$1.0 million	1-year, 3-months
• Lahaina Bypass Road, Phase I:		
Temporary two-lane (150-ft) Bridge, Ikena Street, and at-grade Lahainaluna Road	$8.0 million	4-years
Permanent two-lane (400-ft) Bridge, Ikena Street, and at-grade Lahainaluna Road	$15.0 million	6-years
Permanent two-lane (400-ft) Bridge, Ikena Street, and grade separation at Lahainaluna Road	$30.0 million	8-years

2. Constructing a permanent two-lane, 50-foot wide, 400-foot long bridge across Kahoma Stream and using the existing Ikena Street along the Lahaina Bypass Road alignment with an at-grade intersection with Lahainaluna Road. This alternative could be constructed in approximately six years. The cost to construct the permanent 400-foot long bridge was estimated to be $8.5 million. Including the connector roads, the total estimated construction cost for these improvements is $15.0 million.

3. Constructing a permanent two-lane, 50-foot wide, 400-foot long bridge across Kahoma Stream and constructing a two-lane Lahaina Bypass Road along its ultimate alignment with a grade separation at Lahainaluna Road. This alternative could be constructed in approximately eight years at a total cost of approximately $30.0 million.

These alternative scenarios include the construction of a connector road between Honoapiilani Highway and the proposed Lahaina Bypass Road. The County of Maui would have to pursue the construction of this local connector road. There are two different alignments along which this local connector road could be constructed. One alignment is to construct this connector along the existing Kapunakea Street. This alternative would, however, involve the acquisition of several residential homes to accommodate the widened roadway. The second alignment would use Keawe Street in the Lahaina Business Park. Either alignment may involve ceded lands issues that must be resolved before pursuing this alternative. This effort would also require close coordination between HDOT and the County of Maui.

Future phases of construction could include the County of Maui extending Dickenson Street to connect to the Lahaina Bypass and the State constructing a second two-lane northerly increment of the Lahaina Bypass Road.

D. Honoapiilani Highway Widening to Four Lanes

Honoapiilani Highway is essentially a two-lane roadway that currently experiences congested conditions during peak periods. The Lahaina Bypass Road is intended to relieve congestion on Honoapiilani Highway by diverting traffic onto this alternate route around Lahaina. The construction of the Lahaina Bypass Road between Honokowai and Puamana, however, will take several years to complete. The widening of Honoapiilani Highway to a four-lane facility from Dickenson Street to south of Front Street was, therefore, evaluated as an interim strategy to relieve congestion. (Note: Honoapiilani Highway is already four-lanes north of Lahainaluna Road).

The widening of Honoapiilani Highway to four lanes between Dickenson Street and 1,000-feet south of Front Street is estimated to cost approximately $5.4 million. The State Legislature has already provided $2.5 million in construction for this project. Widening Honoapiilani Highway to four lanes between Dickenson Street and 1,000-feet south of Shaw Street will provide the greatest benefit by providing additional capacity through the Shaw Street intersection. For this reason, phased implementation of these improvements was considered. The first phase of construction could include the widening of Honoapiilani Highway to four lanes between Dickenson Street and 1,000-feet south of Shaw Street. The second phase of construction could include 1,000-feet south of Shaw Street to 1,000-feet south of Front Street upon appropriation of additional construction funds.

E. Island-wide Programs

TDM techniques were considered on an island-wide basis since they are most effective at reducing travel demand between regions. The County of Maui has formed a Transit Action Committee to discuss and pursue transit alternatives on the island of Maui.

FINDINGS AND CONCLUSIONS

Past planning efforts have produced recommendations which when implemented, should be able to address many of the existing and future congestion problems. It is recognized that improvements to various key facilities have been delayed and in the meantime, the demands on the transportation systems have continued to increase.

1. There is a need to expedite the completion of ongoing projects.

2. Interim strategies to provide near term relief appear viable and worthy of further investigation.

3. Transportation plans and programs need to be updated to ensure that current policies and conditions are accurately reflected; and appropriate measures are taken to adequately accommodate the ever-changing demands.

Some of the major projects that could be implemented within the near term to address the focal problem areas are listed below.

Central Maui

Problem: Congestion Along Mokulele Highway.

Solution: Mokulele Highway Widening, Puunene Avenue to Piilani Highway–widen to four lanes.

Potential hurdles: Land acquisition, funding, relocation of tenants, permits and clearances.

Estimated CON costs and schedule:

Phase	Estimate	Ready to Advertise
Phase IA	$24.0 million	FY2001
Phase IB	$18.0 million	FY2003
Phase IC	$14.0 million	FY2004
Phase IIA	$15.0 million	FY2001
Phase IIB	$17.0 million	FY2005

East Maui/Upcountry

Problem: Congestion through Paia Town.

Possible interim measures:

1. Restrict left turn movements from Hana Highway during the afternoon peak period.

2. Restrict on-street parking through Paia Town during the afternoon peak period.

3. One-Way Reliever road, between Hana Highway and Baldwin Avenue (project by A&B Properties).

Problem: Congestion along Haleakala Highway; Haleakala/Hana Highway Intersection.

Solution: Haleakala Highway Widening, Hana Highway to Pukalani.

Potential hurdles: Land acquisition, funding.

Estimated CON costs: $19.8 million.

South Maui

Problem: Congestion along Piilani Highway.

Interim solution: Interim Piilani Highway Widening, Mokulele Highway to Kilohana Drive including improved traffic signal management.

Potential hurdles: Drainage structures may require major modifications, acquisition of traffic signal poles may delay project schedule, additional construction funds may be needed to complete improvements through heavily congested segments of Piilani Highway, bicycle lanes must be relocated.

Estimated CON costs and schedule: $3.0 million/State; $1.0 million/County – 2004

West Maui

Problem: Congestion along Honoapiilani Highway, between Lahainaluna Road and Puamana; Honoapiilani Highway/Lahainaluna Road intersection.

Possible interim measures:

1. Construction of interim roadway along existing Cane Haul Road, between Lahainaluna Road and Lahaina Business Park.

   Potential hurdles: Land acquisition, possible soil contamination.

   Estimated CON costs and schedule: $1.0 million – 6 months following clearing of Pioneer Mill by AMFAC.

2. Phased construction of Lahaina Bypass, Kapunakea Street to Lahainaluna Road; and County connector road, Honoapiilani Highway to Lahaina Bypass.

   Potential hurdles: Completion of environmental documents and approvals, ceded land issues, land acquisition, funding.

   Estimated CON costs and schedule: $15 million – 6 years.

3. Honoapiilani Highway Widening, Lahainaluna Road to Puamana.

   Potential hurdles: Impact to area residents, funding.

   Estimated CON costs and schedule:
   PE/DES – $700,000 – 1.5 years
   CON – Phase 1: Dickenson Street 1,000 feet south of Shaw Street
   $2.0 million – 1.5 years
   Phase 2: 1,000 feet south of Shaw Street to Front Street
   $3.4 million – 2 years

4. Dickenson Street Extension

   Note: County of Maui has just initiated this project and more detailed information is unavailable at this time. This project would also help to alleviate the congestion problem.

RECOMMENDATIONS

Transportation planning efforts have been ongoing for many years. Yet the demands on our highway facilities has outpaced our ability to provide the additional capacities required. The following recommendations are intended to provide some guidance in expediting planned improvements and/or offering interim measures for consideration.

In general—

1. Phased construction of projects should be pursued when appropriate.
2. Where prudent, interim strategies should be pursued to provide near term relief.
3. Transportation plans and programs should be updated to reflect current policies and conditions.

Central Maui

(No further recommendations—the phased construction of Mokulele Highway is imminent).

East Maui/Upcountry

1. The Paia Bypass Road project should be expedited.

2. A study may need to be conducted to assess the effectiveness of the proposed interim strategies to reduce traffic congestion in Paia Town. The study should take into consideration the concerns expressed by a number of CAC members regarding these interim strategies. Alternative interim strategies to be evaluated in the study could include turn restrictions and parking restrictions during the afternoon peak traffic period (4:00 pm to 6:00 pm), and a short one-way reliever road. Traffic operation and economic data should be gathered and analyzed to evaluate the before and after conditions to assess the effectiveness of the strategies. This recommendation to conduct

a study, while not previously discussed with CAC members, is a result of the input provided by CAC members concerning the Paia community's sentiment.

Based on the findings from the study, interim improvements to address the congestion within Paia Town should be developed, in cooperation with the public agencies and in consideration of public comments.

3. HDOT should implement phased construction of the Haleakala Highway four-lane divided roadway-widening project. The first phase of construction should include the Hana Highway intersection with Haleakala Highway.

South Maui

(No further recommendations—the project to implement the Interim Widening of Piilani Highway to four lanes within the existing right-of-way and to improve traffic signal management is underway).

West Maui

1. Investigate the use of the Cane Haul Road as an interim roadway. Pursue an interim roadway alignment between Lahainalua Road and the Lahaina Business Park by using Keawe Street, the existing cane haul road through Pioneer Mill site, and connecting to Lahainaluna Road at Kahua Street.

2. HDOT should construct the first phase of the Lahaina Bypass, between Kapunakea Street and Lahainaluna Road; the County of Maui should construct the connector road from Honoapiilani Highway to Lahaina Bypass.

3. HDOT should initiate the project to widen Honoapiilani Highway to a four lane facility between Dickenson Street and approximately 1,000-feet south of Front Street. Construction of these improvements should be done in two phases to utilize the funds already available. The first phase will include widening Honoapiilani Highway to four lanes between Dickenson Street to approximately 1,000-feet south of Shaw Street; the second phase of construction will be from 1,000-feet south of Shaw Street to 1,000-feet south of Front Street.

Other Miscellaneous Interim Measures Island-wide:

(No further recommendations at this time—there are several islandwide strategies currently in the works, which should be completed before new initiatives are undertaken).